CLAIM SUMMARY DOCUMENT

The following listing of claims will replace all prior versions and listings of claims in this application.

1. (Canceled)

2. (Currently Amended) A vehicle bumper comprising:

a bumper reinforce;

a hollow crash box, which extends from the bumper reinforce, wherein the crash box has a first end, which is coupled to the bumper reinforce, and a second end, which is coupled to the vehicle body, and wherein, when receiving axial load, the crash box is plastically deformed to absorb the axial load; and

an initial buckling portion, which is previously formed only in a predetermined portion of the crash box that is close to one of the first and second ends, the initial buckling portion being a plastically deformed portion formed by applying an axial load to material forming the crash box before the vehicle bumper is mounted on the vehicle, wherein part of the crash box that has no initial buckling portion has a constant cross-section along the axial direction of the crash box, wherein plastic deformation of the crash box due to axial load starts at the initial buckling portion and progresses toward the other one of the first and second ends from the initial buckling portion so that the part of the crash box having no initial buckling portion is gradually deformed.

3. (Original) The bumper according to claim 2, wherein the bumper reinforce extends laterally relative to the vehicle, and wherein the crash box extends along the front-rear direction of the vehicle.

4. (Original) The bumper according to claim 2, wherein the initial buckling portion is close to the first end of the crash box.

5. (Currently Amended) The bumper according to claim 2, wherein the initial buckling portion extends along the entire circumference ~~of a~~ of the predetermined portion in the axial direction of the crash box and includes projections and recess which are alternatively arranged in the circumferential direction of the crash box.

6. (Original) The bumper according to claim 2, wherein the crash box is one of a pair of crash boxes, each of which is located at one end of the bumper reinforce.

7. (Withdrawn) A method for manufacturing a hollow shock absorbing member, which is plastically deformed for absorbing axial load, comprising:

preparing a hollow material that has a constant cross section in the axial direction; and

applying axial load to the hollow material until the hollow material is plastically deformed so that a buckling portion is formed at any position in the axial direction of the hollow material, wherein the hollow material, which has the buckling portion, is used as the shock absorbing member, and wherein plastic deformation of the shock absorbing member due to axial load starts at the buckling portion.

8. (Withdrawn) The method according to claim 7, wherein the hollow material is formed by extruding metal.

9. (Currently Amended) The bumper according to claim 2, wherein the crash box has sides and ridgelines, each ridgeline being defined by adjacent pairs of sides and extending in ~~an~~ the axial direction of the crash box, wherein the initial buckling portion extends along an entire circumference ~~of a~~ of the predetermined portion in the axial direction of the crash box so that the initial buckling portion is formed not only on the sides but also on the ridgelines, and wherein the initial buckling portion includes projections and recess which are smoothly connected to the part of the crash box that has no initial buckling portion.

10. (Previously Presented) The bumper according to claim 2, wherein the crash box has a substantially rectangular cross-section.

11. (Canceled)

12. (Currently Amended) A vehicle bumper mounted on a vehicle comprising:

a bumper reinforce;

a hollow crash box having first and second ends, one of the first and second ends of the crash box being coupled to the bumper reinforce and the other of the first and second ends of the crash box being coupled to a vehicle body of the vehicle;

the hollow crash box including an initial buckling portion at which plastic deformation of the hollow crash box starts when the crash box receives a load, the initial buckling portion being formed by plastic deformation of a part of the crash box before the vehicle bumper is mounted on the vehicle and being located only in said part of the crash box, the plastic deformation of said part of the crash box being achieved by applying an axial load to material forming the crash box so that the plastically deformed initial buckling portion extends around the entire circumference of the crash box and includes projections and recess which are alternately arranged in the circumferential direction of the crash box, the entire part of the crash box in which is located the plastically deformed initial buckling portion being closer to the first end of the hollow crash box than the second end of the hollow crash box with the start of plastic deformation of the hollow crash box occurring at a specific portion

of the hollow crash box defined by the initial buckling portion and proceeding toward an adjacent portion of the hollow crash box.

13. (Previously Presented) The bumper according to claim 12, wherein the bumper reinforce extends laterally relative to the vehicle, and wherein the crash box extends in a front-rear direction of the vehicle.

14. (Previously Presented) The bumper according to claim 12, wherein the first end of the hollow crash box is coupled to the bumper reinforce.

15. (Canceled)

16. (Previously Presented) The bumper according to claim 12, wherein the plastically deformed initial buckling portion is devoid of holes passing through the hollow crash box.

17. (Previously Presented) The bumper according to claim 12, wherein the hollow crash box includes at least one partition in an interior of the hollow crash box dividing the interior into a plurality of interior sections.

18. (Previously Presented) The bumper according to claim 12, wherein the hollow crash box has a cross-section defined by a plurality of sides positioned so that pairs of the sides adjacent one another meet at a corner, the initial buckling portion extending across each corner.

19. (Previously Presented) The bumper according to claim 12, wherein the part of the crash box that is not plastically deformed before the vehicle bumper is mounted on the vehicle has a constant cross-section along the axial direction of the crash box.

20 (Previously Presented) The bumper according to claim 2, wherein the hollow crash box has a substantially rectangular cross-section and includes two partitions in an interior of the hollow crash box, wherein the partitions extend along the axis of the hollow crash box and are perpendicular to each other to divide the interior of the hollow crash box into four sections.

21. (Previously Presented) The bumper according to claim 2, wherein the initial buckling portion is located only at a portion of the hollow crash box that is close to the bumper reinforce.

22. (Previously Presented) The bumper according to claim 12, wherein the hollow crash box has a substantially rectangular cross-section and includes two partitions in an interior of the hollow crash box, wherein the partitions extend along the axis of the hollow crash box and are perpendicular to each other to divide the interior of the crash box into four sections.

23. (Previously Presented) The bumper according to claim 12, wherein the entirety of the part of the crash box in which is located the initial buckling portion is located closer to the bumper reinforce than the vehicle body of the vehicle.